HEALTH CARE PROVIDER MANUAL

Asthma

Breathing just got easier

UTAH DEPARTMENT OF HEALTH
Asthma Program

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The Asthma Providers' Manual was developed to address diagnosing and medication issues in the management of asthma. The manual focuses on the National Asthma Education and Prevention Program's (NAEPP) Guidelines for the Diagnosis and Management of Asthma. It was designed to keep clinical practices up to date on how to use a comprehensive approach to managing patients' asthma. Improved asthma management results in improved quality of life and allows your patients to breathe easier. Included below are instructions for use of this manual, and how best to utilize information and materials for the needs of your practice.

The manual includes four sections: pediatric, adult, resources, and medications which are designed to address the needs of your individual practice and patients. Each section can be used independently or together depending on your needs.

Pediatric: This section discusses diagnosing and medication issues specifically for children up to age 18. It also includes information on identifying and controlling triggers, special medication considerations with children, and managing asthma in the school setting.

Adult: This section discusses diagnosing and medication issues for adults age 18 and older. It includes information on asthma management plans, self-assessments, and special considerations related to asthma, such as asthma in pregnancy, work-related issues and asthma in the elderly.

Resources: Throughout the text of the pediatric and adult manuals there are references to additional resources including physician and patient education resources.

Physician Resources: includes in depth information on delivering asthma education during visits, educating children, asthma education/testing locations in the state, comorbid conditions, and special considerations about asthma.

Patient Education Resources: includes handouts for better asthma education and management by the patient. These materials can be copied and distributed to your patients to help them learn about and manage their asthma.

Medications: This section discusses the effects of asthma medications, mechanism of action, precautions/contraindications, and adverse drug effects. This section is applicable for both pediatric and adult patients.

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What's New in the National Heart, Lung, and Blood Institute's Asthma Guidelines

Definition, pathophysiology and pathogenesis of asthma and natural history of asthma

- The critical role of inflammation has been further substantiated, but evidence is emerging for considerable variability in the pattern of inflammation, thus indicating phenotypic differences that may influence treatment responses.
- Gene-by-environmental interactions are important to the development and expression of asthma. Of the environmental factors, allergic reactions remain important. Evidence also suggests a key and expanding role for viral respiratory infections in these processes.
- The onset of asthma for most patients begins early in life, with the pattern of disease persistence determined by early, recognizable risk factors, including atopic disease, recurrent wheezing, and a parental history of asthma.
- Current asthma treatment with anti-inflammatory therapy does not appear to prevent progression of the underlying disease severity.

Measures of asthma assessment and monitoring

- The key elements of assessment and monitoring are refined to include the separate, but related, concepts of severity, control, and responsiveness to treatment. Classifying severity is emphasized for initiating therapy; assessing control is emphasized for monitoring and adjusting therapy. Asthma severity and control are defined in terms of two domains: impairment and risk.
- The distinction between the domains of impairment and risk for assessing asthma severity and control emphasized the need to consider separately asthma's effects on quality of life and functional capacity on an ongoing basis and the risks they present for adverse events in the future, such as exacerbations and progressive loss of pulmonary function. These domains of asthma may respond differentially to treatment.
- Discussion has been added on the use of spirometry, especially in children, and on the criteria for reversibility.
- Information has been added on vocal cord dysfunction (VCD) and cough variant asthma as an alternative diagnosis. Reference has been added to updated information other components of comorbid conditions that may complicate diagnosis and treatment of asthma.
- The severity classification for asthma changed the category of 'mild intermittent' to 'intermittent' in order to emphasize that even patients who have intermittent asthma can have severe exacerbations. A note of emphasis has also been added that acute exacerbations can be mild, moderate, or severe in any category of persistent asthma.
- Severity classification is defined in terms of two domains—impairment and risk—to emphasize the need to consider separately asthma's effects on quality of life and functional capacity on an ongoing basis. It will also emphasize the risks asthma presents for adverse events in the future, such as exacerbations and progressive loss of pulmonary function. These domains of asthma may respond differentially to treatment.
- A new emphasis on using FEV1/FVC has been added for classifying severity in children because it may be a more sensitive measure than FEV1 alone.
- Periodic assessment of asthma control is emphasized.

- The update makes a stronger distinction than previous guidelines between classifying asthma severity and assessing asthma control. Interpretation of previous asthma guidelines raised questions about applying the severity classifications once treatment is established and also resulted in placing more emphasis on severity than ongoing monitoring of whether therapeutic goals were met. The update clarifies the issues:
    - For initiating treatment, asthma severity should be classified, and the initial treatment should correspond to the appropriate severity category.
    - Once treatment is established, the emphasis is on assessing asthma control to determine if the goals for therapy have been met and whether adjustments in therapy (step up or step down) would be appropriate.
- Assessment of asthma control includes the two domains of impairment and risk.
- Peak flow monitoring: The recommendation to assess diurnal variation was deleted. New text was added regarding the patients most likely to benefit from routine peak flow monitoring. Emphasis was added that evidence suggests equal benefits to either peak flow or symptoms-based monitoring; the important issue continues to be having a monitoring plan in place.
- Parameters for lung function, specifically FEV1/FVC, were added as measures of asthma control for children.
- Minimally invasive markers and pharmacogenetic approaches for monitoring asthma. New text was added. These approaches have gained increasing attention in clinical research and some applications may be useful in the near future for the clinical management of asthma. The concepts are introduced here, although most require further evaluation before they can be recommended as tools for routine asthma management.

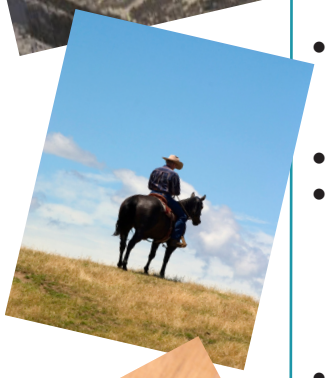
Education for a partnership in asthma care

Patient Education

- Emphasis on the many potential points of care and sites available to provide asthma education, including review of new evidence regarding the efficacy of asthma self-management education outside the usual office setting.
- Greater emphasis on the two aspects of the written asthma action plan: (1) daily management, and (2) how to recognize and handle worsening asthma. Use of the terminology "written asthma action plan" encompasses both aspects. This change addresses confusion over the previous guidelines' use of different terms. One term is now used for the written asthma action plan, although in some studies cited, investigators may have used a variation of this term.
- New sections on the impact of cultural and ethnic factors and health literacy that affect delivery of asthma self-management education.

Provider Education

- New section with review of system-based interventions to improve the quality of asthma care, to support clinical decision-making, and to enhance clinical information systems.
- Review of tested programs that use effective strategies to provide clinician education in asthma care; e.g., multidimensional approaches, interactive formats, and practice-based case studies.



Control of environmental factors and comorbid conditions that affect asthma

- Evidence strengthens recommendations that reducing exposure to inhalant indoor allergens can improve asthma control and notes that a multifaceted approach is required; single steps to reduce exposure are generally ineffective.
- Formaldehyde and volatile organic compounds (VOCs) have been implicated as potential risk factors for asthma and wheezing.
- Evidence shows that influenza vaccine, while having other benefits, does not appear to reduce either the frequency or severity of asthma exacerbations during influenza season.
- The section has been expanded to include discussion of ABPA, obesity, OSA, and stress as chronic comorbid conditions, in addition to rhinitis, sinusitis, and gastroesphageal reflux that may interfere with asthma management.

Medications

- Information about asthma medication has been updated based on review of evidence published since 1997. This update continues to emphasize that the most effective medications for long-term therapy are those shown to have anti-inflammatory effects.
- New medications—immunomodulators—are available for long-term control of asthma.
- New data on the safety of LABAs are discussed, and the position of LABA in therapy has been revised. The most significant difference is that, for youths ≥12 years of age and adults who have moderate persistent asthma or asthma inadequately controlled on low-dose ICS, the option of increasing the dose of medium-dose ICS should be given equal weight to the option of adding LABA to low-dose ICS.
- The estimated clinical comparability of different ICS preparations has been updated. The significant role of ICSs in asthma therapy continues to be supported.

Managing Asthma Long-Term

- Recommendations for managing asthma in children 0-4 and 5-11 years of age are presented separately from recommendations for managing asthma in youths ≥12 years of age and adults.
- Treatment decisions for initiating long-term control therapy and maintaining control are based on assessing the level of asthma control (considering both the impairment and risk domains) and selecting a corresponding step for treatment. Recommendations on when to initiate therapy in children 0-4 years of age have been revised.
- Treatment decisions for adjusting therapy and maintaining control are based on assessing the level of asthma control (considering both the impairment and risk domains).
- The distinction between the domains of impairment and risk for assessing asthma control and guiding decisions for therapy emphasizes the need to consider separately asthma's effects on quality of life and functional capacity on an ongoing basis and the risk it presents for adverse events in the future, such as exacerbation and progressive reduction in lung growth or lung function. These domains of asthma may respond differentially to treatment.
- Stepwise approach to managing asthma has been expanded to include six steps of care to simplify the actions within each step. For example, previous guidelines had several progressive actions within step 3, whereas the current guidelines separate the actions into different steps.

- Treatment options within the steps have been revised, especially:
  - For patients not well controlled on low-dose inhaled corticosteroid (ICS), increasing the dose of ICSs to medium dose is recommended before adding adjunctive therapy in the 0-4 years age group; for other age groups (children 5-11 years of age and youths ≥12 years of age and adults), increasing the dose or adding adjunctive therapy to a low dose of ICS are considered as equal options.
  - Evidence for the selection of adjunctive therapy is limited in children under 12 years of age; recommendations vary according to the assessment of impairment or risk.
  - Steps 5-6 for youths ≥12 years of age and adults include consideration of omalizumab.
- Managing special situations has been expanded to include racial and ethnic disparities.

Go to http://www.health.utah.gov/asthma/professionals/resource_guide.html to access the Utah Health Care Asthma Provider Manual or to http://www.nhlbi.nih.gov/guidelines/asthma/index.htm to access the full National Heart, Lung, and Blood Institute Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma.